

**REMARKS**

Claims 6-8 are pending in this application. Claims 1-5 have been canceled without prejudice or disclaimer. Claims 6-8 have been amended.

Applicants, by amending or canceling claims, make no admission as to the validity of any rejection made by the Examiner against any of these claims. Applicants reserve the right to reassert any broader claim herein amended or canceled in a continuing application.

Claims 6 has been amended, in part, to recite blanching ginseng in a phosphoric acid solution, and soaking jujube and chestnut in a mixed solution comprising a calcium solution and a phosphoric acid solution. Claim 7 has been amended to recite, in part, blanching ginseng in a 0.2% phosphoric acid solution at 60°C for 20 minutes. Claim 8 has been amended to recite, in part, soaking jujube and chestnut in a mixed solution comprising a 0.1 % to 0.3 % calcium solution and a 0.2% phosphoric acid solution at 25 °C for 1 hour. Support for amended claims 6-8 appears throughout the specification and claims as originally filed. Please see the specification at page 3, lines 25-26; page 4; and Table 1 at pages 6 and 7. No new matter has been added.

The specification and the Abstract have also been amended to recite “organic acid or phosphoric acid” in place of “organic acid” because the specification incorrectly lists phosphoric acid as an organic acid when in fact, phosphoric acid is an inorganic acid. Support for this amendment appears in the specification at, for example, page 3,

lines 25-26, and Table 1 at pages 6 and 7. The specification has also been amended to correct minor grammatical errors. No new matter has been added.

In addition, the Abstract has been amended to delete legal language, to correct minor errors, and to limit it to 150 words. No new matter has been added.

The Examiner is thanked for conducting an interview with the undersigned on May 30, 2007.

In view of the remarks set forth below, further and favorable consideration is respectfully requested.

***II. At page 2 of the final Official Action, claims 6-8 have been rejected under 35 USC § 103(a) as being unpatentable over Try in view of the combination of George et al. (US 6,042,863) Katsuragi et al. (US 5,756,543), Komatsu et al. (US 3,892,058), and McIntyre et al. (US 4,741,911).***

The Examiner asserts that it would have been obvious to the skilled artisan to blanch the ginseng, jujube, and chestnut, because Try teaches a popular dish which includes chestnuts and George teaches a method of improving nuts. The Examiner further asserts that it would be obvious to the skilled artisan to slice the ginseng before processing depending on the desired taste.

With regard to soaking, the Examiner asserts that it would have been obvious to the skilled artisan to soak the ginseng, jujube, and chestnut in a calcium and organic acid solution in view of Katsuragi, and that one would have been so motivated in order to gain the benefits of reduced bitterness. The Examiner further asserts that it would

have been obvious to sterilize the rice mixture in view of Komatsu's process including a high temperature, high pressure, preservation process.

Regarding steaming, the Examiner asserts that it would have been obvious to the skilled artisan to include GDL before heat treatment and to cook by steaming, in view of McIntyre et al.

Responsive to Applicants arguments presented in the Amendment and Response filed on September 16, 2006, the Examiner asserts the following:

- (i) that George does teach the lower end of the claimed ranges because George teaches blanching for 20 minutes at "approximately 49°C";
- (ii) that George teaches away from acid soaking only in regard to large scale operations which are neither claimed not taught by the other references, and thus, George does not teach away for the claimed invention;
- (iii) that the combination of references is proper because George teaches a blanching process including skin removal which removes bitter taste and prevents discoloration; thus, the skilled artisan would have been motivated to use the George process in order to achieve a less bitter product without discoloration; and
- (iv) that Katsuragi does teach an organic acid and calcium solution because Katsuragi teaches at col. 3, lines 43-65 that the solution that is applied to the jujubes may also contain, "unreacted polycarboxylic acid and mono-or diglyceride and polymerization products thereof..." and "examples of the counter ions for formation of the salt include alkali metals ...such as... calcium...."

In view of the following, this rejection is respectfully traversed.

With regard to (i) above, Applicant again asserts that George does **NOT** teach the lower end of the claimed ranges because George does **NOT** teach blanching for 20 minutes at "approximately 49°C." Further, **any ranges described by George et al.**

***are described in connection with blanching in an ALAKALINE solution, not in a phosphoric acid solution as presently claimed, and are thus, not relevant to the presently claimed process.***

As previously discussed, George et al. teaches at col. 3, lines 42-55, that blanching can be carried out at temperatures of 5 to 49°C for a time period of 20 seconds to 20 minutes ***in an alkaline solution***; however, George et al. qualifies the foregoing by explaining that ***exposure time can be increased (i.e., to 10 minutes) if accompanied by a reduction in temperature (i.e., to 21°C)***. George et al. clearly describes that higher temperatures require shorter exposure times. Should the Examiner maintain this assertion, an explanation specifically addressing the foregoing is respectfully requested.

Further, George et al. teaches that higher temperatures, while theoretically possible, are undesirable because they make the nuts more fragile and thus may reduce shelf life and ***for those reasons should be avoided***. Accordingly, George et al. ***teaches away*** from temperatures in excess of 50°C.

Solely in order to expedite prosecution, claim 6 has been amended to recite, in part, blanching ginseng in a phosphoric acid solution, and soaking jujube and chestnut in a mixed solution comprising a calcium solution and a phosphoric acid solution. Claim 7 has been amended to recite, in part, blanching ginseng in a 0.2% phosphoric acid solution at 60°C for 20 minutes. Claim 8 has been amended to recite, in part, soaking jujube and chestnut in a mixed solution comprising a 0.1 % to 0.3 % calcium solution and a 0.2% phosphoric acid solution at 25 °C for 1 hour.

With regard to the Examiner's assertion (ii) above, i.e., that George et al. teaches away from acid soaking only in regard to large scale operations which are neither claimed nor taught by the other references, and thus, George does not teach away for the claimed invention; Applicant asserts that **George does in fact teach away from acid soaking.**

Generally, George et al. in the Background of the Invention section describes known processes that are insufficient or undesirable. The Examiner quotes col. 2, lines 23-25 which passage is in the Background section.

Specifically, George clearly describes in the Background section at col. 2, lines 16-21, that:

- a. "In **common chemical processes** for removing skins from some seeds such as nuts, seeds are first immersed in an alkaline bath, subsequently immersed in an acid bath...However, the **acid** leaves the seeds with an **unpleasant bitter taste and may reduce their shelf life.**" (emphasis added)

and at lines 21-26, that:

- b. "Moreover, the concentrations of the chemical solutions dilute over the soaking period because of debris introduced into the solutions by the seeds. Dilution makes regulation of the concentration of the solutions highly difficult and renders these processes [chemical processes] unfeasible for large scale blanching operations."

From the foregoing with regard to a., it is clear that George et al. **teaches away from acid soaking**, without regard to whether the chemical process is a small or large scale process, because acid soaking leaves the seeds with an unpleasant bitter taste and may reduce their shelf life. With regard to b. above, George et al. also **teaches away from using large scale chemical processes** for removing skin because

dilution makes it difficult to regulate the concentration of solutions. Regardless of whether the chemical process is or is not a “large scale process” George et al. clearly states that “the acid leaves the seeds with an unpleasant bitter taste and may reduce their shelf life.” It is the acid and not the “large scale process” that leaves the seeds with an unpleasant bitter taste and may reduce their shelf life. Should the Examiner maintain the assertion that George et al. does not teach away from acid soaking, an explanation specifically addressing the foregoing is respectfully requested.

Further, George et al. in the Summary of the Invention Section at col. 2, lines 47-50, describe that the invention provides a process that does not adversely affect the taste, appearance, or shelf life of the product. The foregoing in view of the description in the Background, at col. 2 discussed above, that the acid leaves the seeds with an unpleasant bitter taste and may reduce their shelf life, again clearly evidences that George et al. **teach away** from acid soaking.

With regard to the Examiner’s assertion (iii) above, that the combination of references is proper because George et al. teaches a blanching process including skin removal which removes bitter taste and prevents discoloration; thus, the skilled artisan would have been motivated to use the George process in order to achieve a less bitter product without discoloration; Applicant again asserts that the combination of George et al. with Katsuragi et al. is improper.

George et al. is directed to a method for skinning the seed of legumes, drupes and grains wherein the bitterness imparting component, i.e., skin, is removed. George et al. describes that existing processes for removing skin or hull are unsatisfactory

because they do not completely remove the skin without abrading away significant amounts of meat. See George et al. at col. 1, lines 46-48. In contrast thereto, Katsuragi et al. is directed to controlling the bitterness of food where the bitterness imparting components, i.e., skin or hull, are not removed. See col. 2, lines 22-32 of Katsuragi et al. which recites:

“Accordingly, an object of the present invention is to provide a bitterness-relieving agent, which exerts an excellent effect of relieving bitterness on drugs, **foods** or cosmetics **containing offensive taste components** such as bitter components while causing neither any harm nor any change in the taste in the case of a food.” (emphasis added)

Katsuragi et al. is directed to a bitterness-relieving agent which relieves bitterness of foods containing offensive taste components. The skilled artisan in view of George et al. that describes eliminating offensive taste components of food, i.e., skin or hull, by blanching, would have no motivation to look to Katsuragi et al. which describes relieving the bitterness of foods containing offensive taste components using a bitterness relieving agent. Likewise, the skilled artisan in view of Katsuragi et al. that describes controlling bitterness in foods containing offensive taste components using a bitterness relieving agent, would have no motivation to look to George et al. which describes removing offensive taste components to eliminate bitterness.

The Examiner asserts that George et al. teaches at col. 1, lines 34-51, that blanching is desirable to remove unpleasant or bitter taste and to prevent discoloration. Again, contrary to the Examiner's assertions, this passage teaches that the **removal of bitter tasting skin** from a nut by blanching removes the bitter taste that would otherwise be imparted by the skin; and likewise, the removal of colored skins prevents

discoloration that would otherwise be imparted by the skin. George et al. **does not** teach that a blanching process absent the removal of skin removes bitter taste and prevents discoloration. Katsuragi describes controlling bitterness in foods where offensive taste components, i.e., skin, **have not been removed**. Accordingly, it is submitted that the combination of George et al. and Katsuragi, is improper.

With regard to the Examiner's assertion (iv) above, that Katsuragi et al. does teach an organic acid and calcium solution because Katsuragi et al. teaches, at col. 3, lines 43-65, that the solution that is applied to the jujubes may also contain, "unreacted polycarboxylic acid and mono-or diglyceride and polymerization products thereof..." and "examples of the counter ions for formation of the salt include alkali metals ...such as... calcium..." Applicants assert that Katsuragi et al. **does not suggest** the presently claimed mixed solution comprising a phosphoric acid solution and a calcium solution.

Rather, Katsuragi et al. describes ***the reaction of an organic acid and counter ion including Na, K, Mg, or Ca in order to FORM the ester and its salt thereby controlling bitter taste***. Specifically, Katsuragi et al. at col. 3, lines 43-65, describe that

"It [the reaction product] may further contain unreacted polycarboxylic acid and mono- or diglyceride and polymerization products thereof. However, it is preferable to purify the reaction product..."

The reaction product may be purified by using a hydrophobic adsorption column (for example, silica gel column chromatography), a molecular weight fractionation column (for example, gel chromatography), etc.

Furthermore, the ester of the mono- or diglyceride with the polycarboxylic acid or a salt thereof may contain a carboxyl group having a free proton



so long as that carboxyl group does not participate in the reaction. Examples of the counter ion for the formation of the salt include alkali metals and alkaline earth metals such as sodium, potassium, calcium, and magnesium, and aluminum. Sodium and potassium are particularly preferable therefor. A salt with an amino acid is also usable.”

***Nowhere in the above passage do Katsuragi et al. state that the reaction product may contain the unreacted counter ion calcium.*** At most, Katsuragi et al. suggests a reaction product containing an ester, unreacted polycarboxylic acid and mono- or diglyceride and polymerization products thereof.

In complete contrast to Katsuragi et al., the present process is carried out in a phosphoric acid solution and a calcium solution in order to reduce microorganism levels and improve texture. Accordingly, the present mixed solution is NOT the same as the ester, its salt, or the “reaction product” as described by Katsuragi et al.

Komatsu et al. is directed to a process for the preparation of high-temperature short time sterilized packaged articles.

McIntyre et al. is directed to a method for processing low-acid foodstuffs in hermetically sealed containers having food therein.

A proper case of obviousness under 35 U.S.C. §103, requires that the prior art, as a whole, must suggest the desirability of making the claimed combination and provide a reasonable expectation of success. See *In re Dow Chemical Co.*, 837 F.2d 469, 5 USPQ2d 1529 (Fed. Cir. 1988).

The *Dow* court further held that “In determining whether such a suggestion can fairly be gleaned from the prior art, the full field of the invention must be considered for the person of ordinary skill is charged with knowledge of the entire body of

technological literature, including that which might lead away from the claimed invention.” The court in *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994), held that “A prior art reference may be said to *teach away* when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” The court in *Busch & Lamb, Inc. v. Barnes-Hind/Hydro curve, Inc.*, 796 F.2d 443 (Fed. Cir. 1986), held that “A reference should be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered.”

Three requirements must be satisfied to establish a *prima facie* case of obviousness. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200 (Fed. Cir. 1991). Lastly, the prior art reference must teach or suggest all the limitations of the claims. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

It is submitted that a *prima facie* case of obviousness has not been established because nothing in any of the applied references, taken alone or together, teach or suggest all of the limitations of the claims as required by *In re Wilson*.

Specifically, none of the applied references, taken alone or together, teach or suggest blanching ginseng in an acid solution. None of the applied references, taken alone or together, teach or suggest blanching ginseng in a phosphoric acid solution to produce pretreated ginseng as recited in present amended claim 6. None of the applied references, taken alone or together, teach or suggest and soaking jujube and chestnut in a mixed solution comprising a calcium solution and an acid solution to produce a pretreated mixture. None of the applied references, taken alone or together, teach or suggest and soaking jujube and chestnut in a mixed solution comprising a calcium solution and a phosphoric acid solution to produce a pretreated mixture, as recited in present amended claim 6.

With regard to present amended claim 7, none of the applied references, taken alone or together, teach or suggest blanching ginseng in a 0.2% phosphoric acid solution at 60°C for 20 minutes after cutting ginseng into fixed sized pieces to produce pretreated ginseng, as recited in present claim 7.

Regarding present amended claim 8, none of the applied references, taken alone or together, teach or suggest soaking jujube and chestnut in a mixed solution comprising a 0.1% to 0.3% calcium solution and a 0.2% phosphoric acid solution at 25°C for 1 hour after cutting the jujube and the chestnut into fixed sized pieces, to reduce microorganism levels and to improve texture to produce a pretreated mixture, as recited in present claim 8.

Further, as discussed above, George et al. ***teaches away*** from soaking in an acid solution. Further, Katsuragi et al. does not teach or suggest a mixed solution comprising a calcium solution.

In view of the foregoing, it is submitted that nothing in any of the applied references, taken alone or together, render the claimed subject matter obvious within the meaning of 35 USC § 103. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

In further support of the unobviousness of the presently claimed invention, set forth below in Table 1 is experimental data that illustrates the unexpectedly superior sterilization level and texture achieved using the presently claimed method as compared to the method of George et al.

**Table 1:**

<b>Jujube</b> <i>Treatment Condition</i>	<b>Microorganism level</b>	<b>Hardness</b>
1. Raw Material (not treated)	$2.8 \times 10^3$	
2. Treatment with alkaline solution (pH 11.7) at 25°C for 20 minutes (George et al.)	$1.2 \times 10^3$	80.99±8.73
3. Treatment with alkaline solution (pH 11.7) at 50°C for 20 minutes (George et al.)	$4.2 \times 10^2$	85.24±16.73
4. Treatment with acid solution (pH 2.3) at 25°C for 20 minutes	$2.7 \times 10^2$	80.64±19.15
5. Treatment with acid solution (pH 2.3) at 60°C for 20 minutes	$3.0 \times 10$	73.65±18.38

The main purpose of the presently claimed subject matter is to improve product texture while reducing an initial microorganism level. Applicants note that George et al.

describes that an alkaline solution is used to remove skins from seeds and a peroxygen solution is used to remove discoloration of meats caused by the alkaline solution.

Table 1 set forth above, illustrates microorganism levels and texture as measured as the Hardness value of the Tensi-pressure, achieved by the present blanching process as compared to the process of George et al. The data presented evidences the unexpectedly superior reduction in microorganism levels observed using the presently claimed process as compared to levels achieved using the George et al. process.

As can be seen from Table 1, Jujube processed according to the presently claimed subject matter illustrated a fourteen-fold reduction in microorganism levels as compared to the microorganism levels observed in Jujube processed according to George et al. Should it be deemed necessary, Applicants will submit the foregoing data to the United States Patent and Trademark Office in the form of a 37 CFR § 1.132 Declaration.

In view of the remarks and data set forth herein, it is submitted that nothing in any of the applied references, taken alone or together, renders the subject matter of claims 6-8, obvious within the meaning of 35 USC § 103 (a). Further, the data submitted and discussed herein evidences the unexpectedly superior results achieved by the presently claimed process as compared to the process of George et al. Accordingly, the Examiner is respectfully requested to withdraw this rejection.

**CONCLUSION**

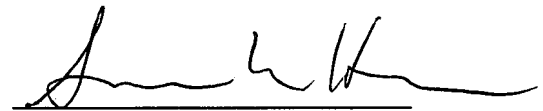
Applicants assert that present claims 6-8 are in condition for immediate allowance. Early notice to that effect is earnestly solicited.

The Examiner is welcomed to telephone the undersigned attorney if he has any questions or comments.

In the event this paper is not timely filed, Applicant hereby petitions for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

Respectfully submitted,

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Date: May 31, 2007  
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